

# Claims

- [c1] 1. A LCD lighting control system, comprising:
- a lamp;
  - a self-oscillation inverter, coupled to a power source and the lamp, for converting electrical energy from the power source to the lamp, the self-oscillation inverter operating with a self-oscillation frequency;
  - a sampling-frequency generating circuit, coupled to the self-oscillation inverter, for sampling and measuring the self-oscillation frequency for outputting a synchronization frequency;
  - a detecting-feedback circuit, coupled to the lamp, for detecting a current flowing through the lamp and perform feedback operation and outputting a feedback signal; and
  - a modulator, coupled to the detecting-feedback circuit, the sampling-frequency generating circuit and the self-oscillation circuit, for receiving and measuring the feedback signal and the synchronization frequency for outputting a controlling synchronized with the self-oscillation frequency.
- [c2] 2. The LCD lighting control system of claim 1, wherein

the sampling–frequency generating circuit samples at a preset sampling location in the self–oscillation circuit.

- [c3] 3. The LCD lighting control system of claim 2, wherein the self–oscillation inverter comprises a first transistor and a second transistor.
- [c4] 4. The LCD lighting control system of claim 3, wherein the preset sampling location is a collector of the first transistor.
- [c5] 5. The LCD lighting control system of claim 3, wherein the preset sampling location is a collector of the second transistor.
- [c6] 6. The LCD lighting control system of claim 1, wherein the sampling–frequency generating circuit comprises:  
a sampling circuit, coupled to the self–oscillation circuit, for sampling the self–oscillation frequency; and  
a frequency–generating circuit, coupled to the sampling circuit and the modulator, outputting the synchronization frequency after measuring the self–oscillation frequency.
- [c7] 7. The LCD lighting control system of claim 1, wherein the detecting–feedback circuit comprises:  
a detecting circuit, coupled to the lamp, for detecting the current flowing through the lamp and outputting a detecting signal; and

a feedback compensation circuit, coupled to the detecting circuit and the modulator, for measuring the detecting signal for outputting the feedback signal.

- [c8] 8. The LCD lighting control system of claim 1, further comprising a buck circuit coupled to the modulator, the self-oscillation inverter and the power source.
- [c9] 9. The LCD lighting control system of claim 8, wherein the buck circuit is a DC/DC buck circuit.
- [c10] 10. The LCD lighting control system of claim 1, wherein the self-oscillation inverter is a DC/AC inverter.
- [c11] 11. The LCD lighting control system of claim 1, wherein the synchronization frequency is single, double, triple, or multiple of the self-oscillation frequency.
- [c12] 12. A LCD lighting control system, comprising:
  - a lamp;
  - a self-oscillation inverter, coupled to a power source and the lamp, for converting electrical energy from the power source to the lamp, the self-oscillation inverter operating with a self-oscillation frequency;
  - a sampling-frequency generating circuit, coupled to the self-oscillation inverter, for sampling and measuring the self-oscillation frequency and outputting a synchronization frequency;

a detecting-feedback circuit, coupled to the lamp, for detecting a current flowing through the lamp and perform feedback operation and outputting a feedback signal;

a modulator, coupled to the detecting-feedback circuit, the sampling-frequency generating circuit and the self-oscillation circuit, for receiving and measuring the feedback signal and the synchronization frequency and outputting a controlling synchronized with the self-oscillation frequency; and

a buck circuit, coupled to the modulator, the self-oscillation inverter and the power source.

[c13] 13. The LCD lighting control system of claim 12, wherein the sampling-frequency generating circuit comprises:  
a sampling circuit, coupled to the self-oscillation circuit, for sampling the self-oscillation frequency; and  
a frequency-generating circuit, coupled to the sampling circuit and the modulator, for outputting the synchronization frequency after measuring the self-oscillation frequency.

[c14] 14. The LCD lighting control system of claim 12, wherein the detecting-feedback circuit comprises:  
a detecting circuit, coupled to the lamp, for detecting the current flowing through the lamp for outputting a detecting signal; and

a feedback compensation circuit, coupled to the detecting circuit and the modulator, for measuring the detecting signal for outputting the feedback signal.

- [c15] 15. The LCD lighting control system of claim 12, wherein the buck circuit is a DC/DC buck circuit.
- [c16] 16. The LCD lighting control system of claim 12, wherein the self-oscillation inverter is a DC/AC inverter.
- [c17] 17. The LCD lighting control system of claim 12, wherein the synchronization frequency is single, double, triple, or multiple of the self-oscillation frequency.